

SEQUENCE LISTING

<110> Yu, Qin

<120> Angiopoietin and Fragments, Mutants, and Analogs Thereof and Uses
of the Same

<130> UPN0003-100 (P3115)

<150> US 60/450,582

<151> 2003-02-27

<160> 36

<170> PatentIn version 3.2

<210> 1

<211> 20

<212> PRT

<213> Homo sapiens

<400> 1

Leu Cys Thr Lys Glu Gly Val Leu Leu Lys Gly Gly Lys Arg Glu Glu
1 5 10 15

Glu Lys Pro Phe
20

<210> 2

<211> 20

<212> PRT

<213> mouse

<400> 2

Leu Cys Thr Lys Glu Gly Val Leu Leu Lys Gly Gly Lys Arg Glu Glu
1 5 10 15

Glu Lys Pro Phe
20

<210> 3

<211> 42

<212> PRT

<213> Homo sapiens

<400> 3

Asn Gln Arg Arg Ser Pro Glu Asn Ser Gly Arg Arg Tyr Asn Arg Ile
1 5 10 15

Gln His Gly Gln Cys Ala Tyr Thr Phe Ile Leu Pro Glu His Asp Gly
20 25 30

Asn Cys Arg Glu Ser Thr Thr Asp Gln Tyr
35 40

<210> 4
<211> 42
<212> PRT
<213> mouse

<400> 4

Asn Gln Arg Arg Asn Pro Glu Asn Gly Gly Arg Arg Tyr Asn Arg Ile
1 5 10 15

Gln His Gly Gln Cys Ala Tyr Thr Phe Ile Leu Pro Glu His Asp Gly
20 25 30

Asn Cys Arg Glu Ser Ala Thr Glu Gln Tyr
35 40

<210> 5
<211> 471
<212> PRT
<213> Homo sapiens

<400> 5

Met Thr Val Phe Leu Ser Phe Ala Phe Leu Ala Ala Ile Leu Thr His
1 5 10 15

Ile Gly Cys Ser Asn Gln Arg Arg Ser Pro Glu Asn Ser Gly Arg Arg
20 25 30

Tyr Asn Arg Ile Gln His Gly Gln Cys Ala Tyr Thr Phe Ile Leu Pro
35 40 45

Glu His Asp Gly Asn Cys Arg Glu Ser Thr Thr Asp Gln Tyr Asn Thr
50 55 60

Asn Ala Leu Gln Arg Asp Ala Pro His Val Glu Pro Asp Phe Ser Ser
65 70 75 80

Gln Lys Leu Gln His Leu Glu His Val Met Glu Asn Tyr Thr Gln Trp
85 90 95

Leu Gln Lys Leu Glu Asn Tyr Ile Val Glu Asn Met Lys Ser Glu Met
100 105 110

Ala Gln Ile Gln Gln Asn Ala Val Gln Asn His Thr Ala Thr Met Leu
115 120 125

Glu Ile Gly Thr Ser Leu Leu Ser Gln Thr Ala Glu Gln Thr Arg Lys
130 135 140

Leu Thr Asp Val Glu Thr Gln Val Leu Asn Gln Thr Ser Arg Leu Glu
145 150 155 160

Ile Gln Leu Leu Glu Asn Ser Leu Ser Thr Tyr Lys Leu Glu Lys Gln
165 170 175

Leu Leu Gln Gln Thr Asn Glu Ile Leu Lys Ile His Glu Lys Asn Ser
180 185 190

Leu Leu Glu His Lys Ile Leu Glu Met Glu Gly Lys His Lys Glu Glu
195 200 205

Leu Asp Thr Leu Lys Glu Glu Lys Glu Asn Leu Gln Gly Leu Val Thr
210 215 220

Arg Gln Thr Tyr Ile Ile Gln Glu Leu Glu Lys Gln Leu Asn Arg Ala
225 230 235 240

Thr Thr Asn Asn Ser Val Leu Gln Lys Gln Gln Leu Glu Leu Met Asp
245 250 255

Thr Arg Asp Cys Ala Asp Val Tyr Gln Ala Gly Phe Asn Lys Ser Gly
260 265 270

Ile Tyr Thr Ile Tyr Ile Asn Asn Met Pro Glu Pro Lys Lys Val Phe
275 280 285

Cys Asn Met Asp Val Asn Gly Gly Gly Trp Thr Val Ile Gln His Arg
290 295 300

Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met
305 310 315 320

Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile
325 330 335

Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met Leu Arg Ile Glu Leu Met
340 345 350

Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile
355 360 365

Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly
370 375 380

Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu His Gly Ala Asp Phe Ser
385 390 395 400

Thr Lys Asp Ala Asp Asn Asp Cys Met Cys Lys Cys Ala Leu Met
405 410 415

Leu Thr Gly Gly Trp Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn Gly
420 425 430

Met Phe Tyr Thr Ala Gly Gln Asn His Gly Lys Leu Asn Gly Ile Lys
435 440 445

Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr Met
450 455 460

Met Ile Arg Pro Leu Asp Phe
465 470

<210> 6
<211> 472
<212> PRT
<213> mouse

<400> 6

Met Thr Val Phe Leu Ser Phe Ala Phe Phe Ala Ala Ile Leu Thr His
1 5 10 15

Ile Gly Cys Ser Asn Gln Arg Arg Asn Pro Glu Asn Gly Gly Arg Arg
20 25 30

Tyr Asn Arg Ile Gln His Gly Gln Cys Ala Tyr Thr Phe Ile Leu Pro
35 40 45

Glu His Asp Gly Asn Cys Arg Glu Ser Ala Thr Glu Gln Tyr Asn Thr
50 55 60

Asn Ala Leu Gln Arg Asp Ala Pro His Val Glu Pro Asp Phe Ser Ser
65 70 75 80

Gln Lys Leu Gln His Leu Glu His Val Met Glu Asn Tyr Thr Gln Trp
85 90 95

Leu Gln Lys Leu Glu Asn Tyr Ile Val Glu Asn Met Lys Ser Glu Met
100 105 110

Ala Gln Ile Gln Gln Asn Ala Val Gln Asn His Thr Ala Thr Met Leu
115 120 125

Glu Ile Gly Thr Ser Leu Leu Ser Gln Thr Ala Glu Gln Thr Arg Lys
130 135 140

Leu Thr Asp Val Glu Thr Gln Val Leu Asn Gln Thr Ser Arg Leu Glu
145 150 155 160

Ile Gln Leu Leu Glu Asn Ser Leu Ser Thr Tyr Lys Leu Glu Lys Gln
165 170 175

Leu Leu Gln Gln Thr Asn Glu Ile Leu Lys Ile His Glu Lys Asn Ser
180 185 190

Leu Leu Glu His Lys Ile Leu Glu Met Glu Gly Lys His Lys Glu Glu
195 200 205

Leu Asp Thr Leu Lys Glu Glu Lys Glu Asn Leu Gln Gly Leu Val Ser
210 215 220

Arg Gln Thr Phe Ile Ile Gln Glu Leu Glu Lys Gln Leu Ser Arg Ala
225 230 235 240

Thr Asn Asn Asn Ser Ile Leu Gln Lys Gln Gln Leu Glu Leu Met Asp
245 250 255

Thr Arg Asp Cys Ala Asp Val Tyr Gln Ala Gly Phe Asn Lys Ser Gly
260 265 270

Ile Tyr Thr Ile Tyr Phe Asn Asn Met Pro Glu Pro Lys Lys Val Phe
275 280 285

Cys Asn Met Asp Val Asn Gly Gly Gly Trp Thr Val Ile Gln His Arg
290 295 300

Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met
305 310 315 320

Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile
325 330 335

Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met Leu Arg Ile Glu Leu Met
340 345 350

Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile
355 360 365

Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly
370 375 380

Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu His Gly Ala Asp Phe Ser
385 390 395 400

Thr Lys Asp Ala Asp Asn Asp Asn Cys Met Cys Lys Cys Ala Leu Met
405 410 415

Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn
420 425 430

Gly Met Phe Tyr Thr Ala Gly Gln Asn His Gly Lys Leu Asn Gly Ile
435 440 445

Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr
450 455 460

Met Met Ile Arg Pro Leu Asp Phe
465 470

<210> 7
<211> 456
<212> PRT
<213> Homo sapiens

<400> 7

Met Thr Val Phe Leu Ser Phe Ala Phe Leu Ala Ala Ile Leu Thr His
1 5 10 15

Ile Gly Cys Ser Asn Thr Asn Ala Leu Gln Arg Asp Ala Pro His Val
20 25 30

Glu Pro Asp Phe Ser Ser Gln Lys Leu Gln His Leu Glu His Val Met
35 40 45

Glu Asn Tyr Thr Gln Trp Leu Gln Lys Leu Glu Asn Tyr Ile Val Glu
50 55 60

Asn Met Lys Ser Glu Met Ala Gln Ile Gln Gln Asn Ala Val Gln Asn
65 70 75 80

His Thr Ala Thr Met Leu Glu Ile Gly Thr Ser Leu Leu Ser Gln Thr
85 90 95

Ala Glu Gln Thr Arg Lys Leu Thr Asp Val Glu Thr Gln Val Leu Asn
100 105 110

Gln Thr Ser Arg Leu Glu Ile Gln Leu Leu Glu Asn Ser Leu Ser Thr
115 120 125

Tyr Lys Leu Glu Lys Gln Leu Leu Gln Gln Thr Asn Glu Ile Leu Lys
130 135 140

Ile His Glu Lys Asn Ser Leu Leu Glu His Lys Ile Leu Glu Met Glu
145 150 155 160

Gly Lys His Lys Glu Glu Leu Asp Thr Leu Lys Glu Glu Lys Glu Asn
165 170 175

Leu Gln Gly Leu Val Thr Arg Gln Thr Tyr Ile Ile Gln Glu Leu Glu

180

185

190

Lys Gln Leu Asn Arg Ala Thr Thr Asn Asn Ser Val Leu Gln Lys Gln
195 200 205

Gln Leu Glu Leu Met Asp Thr Val His Asn Leu Val Asn Leu Cys Thr
210 215 220

Lys Glu Gly Val Leu Leu Lys Gly Gly Lys Arg Glu Glu Glu Lys Pro
225 230 235 240

Phe Arg Asp Cys Ala Asp Val Tyr Gln Ala Gly Phe Asn Lys Ser Gly
245 250 255

Ile Tyr Thr Ile Tyr Ile Asn Asn Met Pro Glu Pro Lys Lys Val Phe
260 265 270

Cys Asn Met Asp Val Asn Gly Gly Gly Trp Thr Val Ile Gln His Arg
275 280 285

Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met
290 295 300

Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile
305 310 315 320

Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met Leu Arg Ile Glu Leu Met
325 330 335

Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile
340 345 350

Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly
355 360 365

Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu His Gly Ala Asp Phe Ser
370 375 380

Thr Lys Asp Ala Asp Asn Asp Asn Cys Met Cys Lys Cys Ala Leu Met
385 390 395 400

Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn
405 410 415

Gly Met Phe Tyr Thr Ala Gly Gln Asn His Gly Lys Leu Asn Gly Ile
420 425 430

Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr
435 440 445

Met Met Ile Arg Pro Leu Asp Phe
450 455

<210> 8
<211> 456
<212> PRT
<213> mouse

<400> 8

Met Thr Val Phe Leu Ser Phe Ala Phe Phe Ala Ala Ile Leu Thr His
1 5 10 15

Ile Gly Cys Ser Asn Thr Asn Ala Leu Gln Arg Asp Ala Pro His Val
20 25 30

Glu Pro Asp Phe Ser Ser Gln Lys Leu Gln His Leu Glu His Val Met
35 40 45

Glu Asn Tyr Thr Gln Trp Leu Gln Lys Leu Glu Asn Tyr Ile Val Glu
50 55 60

Asn Met Lys Ser Glu Met Ala Gln Ile Gln Gln Asn Ala Val Gln Asn
65 70 75 80

His Thr Ala Thr Met Leu Glu Ile Gly Thr Ser Leu Leu Ser Gln Thr
85 90 95

Ala Glu Gln Thr Arg Lys Leu Thr Asp Val Glu Thr Gln Val Leu Asn
100 105 110

Gln Thr Ser Arg Leu Glu Ile Gln Leu Leu Glu Asn Ser Leu Ser Thr
115 120 125

Tyr Lys Leu Glu Lys Gln Leu Leu Gln Gln Thr Asn Glu Ile Leu Lys
130 135 140

Ile His Glu Lys Asn Ser Leu Leu Glu His Lys Ile Leu Glu Met Glu
145 150 155 160

Gly Lys His Lys Glu Glu Leu Asp Thr Leu Lys Glu Glu Lys Glu Asn
165 170 175

Leu Gln Gly Leu Val Ser Arg Gln Thr Phe Ile Ile Gln Glu Leu Glu
180 185 190

Lys Gln Leu Ser Arg Ala Thr Asn Asn Ser Ile Leu Gln Lys Gln
195 200 205

Gln Leu Glu Leu Met Asp Thr Val His Asn Leu Val Ser Leu Cys Thr
210 215 220 220

Lys Glu Gly Val Leu Leu Lys Gly Gly Lys Arg Glu Glu Glu Lys Pro
225 230 235 240

Phe Arg Asp Cys Ala Asp Val Tyr Gln Ala Gly Phe Asn Lys Ser Gly
245 250 255

Ile Tyr Thr Ile Tyr Phe Asn Asn Met Pro Glu Pro Lys Lys Val Phe
260 265 270

Cys Asn Met Asp Val Asn Gly Gly Trp Thr Val Ile Gln His Arg
275 280 285

Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met
290 295 300

Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile
305 310 315 320

Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met Leu Arg Ile Glu Leu Met
325 330 335

Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile
340 345 350

Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly
355 360 365

Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu His Gly Ala Asp Phe Ser
370 375 380

Thr Lys Asp Ala Asp Asn Asp Asn Cys Met Cys Lys Cys Ala Leu Met
385 390 395 400

Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn
405 410 415

Gly Met Phe Tyr Thr Ala Gly Gln Asn His Gly Lys Leu Asn Gly Ile
420 425 430

Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr
435 440 445

Met Met Ile Arg Pro Leu Asp Phe
450 455

<211> 430
<212> PRT
<213> Homo sapiens

<400> 9

Met Thr Val Phe Leu Ser Phe Ala Phe Leu Ala Ala Ile Leu Thr His
1 5 10 15

Ile Gly Cys Ser Asn Thr Asn Ala Leu Gln Arg Asp Ala Pro His Val
20 25 30

Glu Pro Asp Phe Ser Ser Gln Lys Leu Gln His Leu Glu His Val Met
35 40 45

Glu Asn Tyr Thr Gln Trp Leu Gln Lys Leu Glu Asn Tyr Ile Val Glu
50 55 60

Asn Met Lys Ser Glu Met Ala Gln Ile Gln Gln Asn Ala Val Gln Asn
65 70 75 80

His Thr Ala Thr Met Leu Glu Ile Gly Thr Ser Leu Leu Ser Gln Thr
85 90 95

Ala Glu Gln Thr Arg Lys Leu Thr Asp Val Glu Thr Gln Val Leu Asn
100 105 110

Gln Thr Ser Arg Leu Glu Ile Gln Leu Leu Glu Asn Ser Leu Ser Thr
115 120 125

Tyr Lys Leu Glu Lys Gln Leu Leu Gln Gln Thr Asn Glu Ile Leu Lys
130 135 140

Ile His Glu Lys Asn Ser Leu Leu Glu His Lys Ile Leu Glu Met Glu
145 150 155 160

Gly Lys His Lys Glu Glu Leu Asp Thr Leu Lys Glu Glu Lys Glu Asn
165 170 175

Leu Gln Gly Leu Val Thr Arg Gln Thr Tyr Ile Ile Gln Glu Leu Glu
180 185 190

Lys Gln Leu Asn Arg Ala Thr Thr Asn Asn Ser Val Leu Gln Lys Gln
195 200 205

Gln Leu Glu Leu Met Asp Thr Arg Asp Cys Ala Asp Val Tyr Gln Ala
210 215 220

Gly Phe Asn Lys Ser Gly Ile Tyr Thr Ile Tyr Ile Asn Asn Met Pro
225 230 235 240

Glu Pro Lys Lys Val Phe Cys Asn Met Asp Val Asn Gly Gly Gly Trp
245 250 255

Thr Val Ile Gln His Arg Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly
260 265 270

Trp Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp
275 280 285

Leu Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met
290 295 300

Leu Arg Ile Glu Leu Met Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln
305 310 315 320

Tyr Asp Arg Phe His Ile Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr
325 330 335

Leu Lys Gly His Thr Gly Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu
340 345 350

His Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn Asn Cys Met
355 360 365

Cys Lys Cys Ala Leu Met Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys
370 375 380

Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln Asn His
385 390 395 400

Gly Lys Leu Asn Gly Ile Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr
405 410 415

Ser Leu Arg Ser Thr Thr Met Met Ile Arg Pro Leu Asp Phe
420 425 430

<210> 10
<211> 430
<212> PRT
<213> mouse

<400> 10

Met Thr Val Phe Leu Ser Phe Ala Phe Phe Ala Ala Ile Leu Thr His
1 5 10 15

Ile Gly Cys Ser Asn Thr Asn Ala Leu Gln Arg Asp Ala Pro His Val
20 25 30

Glu Pro Asp Phe Ser Ser Gln Lys Leu Gln His Leu Glu His Val Met
11

35

40

45

Glu Asn Tyr Thr Gln Trp Leu Gln Lys Leu Glu Asn Tyr Ile Val Glu
50 55 60

Asn Met Lys Ser Glu Met Ala Gln Ile Gln Gln Asn Ala Val Gln Asn
65 70 75 80

His Thr Ala Thr Met Leu Glu Ile Gly Thr Ser Leu Leu Ser Gln Thr
85 90 95

Ala Glu Gln Thr Arg Lys Leu Thr Asp Val Glu Thr Gln Val Leu Asn
100 105 110

Gln Thr Ser Arg Leu Glu Ile Gln Leu Leu Glu Asn Ser Leu Ser Thr
115 120 125

Tyr Lys Leu Glu Lys Gln Leu Leu Gln Gln Thr Asn Glu Ile Leu Lys
130 135 140

Ile His Glu Lys Asn Ser Leu Leu Glu His Lys Ile Leu Glu Met Glu
145 150 155 160

Gly Lys His Lys Glu Glu Leu Asp Thr Leu Lys Glu Glu Lys Glu Asn
165 170 175

Leu Gln Gly Leu Val Ser Arg Gln Thr Phe Ile Ile Gln Glu Leu Glu
180 185 190

Lys Gln Leu Ser Arg Ala Thr Asn Asn Asn Ser Ile Leu Gln Lys Gln
195 200 205

Gln Leu Glu Leu Met Asp Thr Arg Asp Cys Ala Asp Val Tyr Gln Ala
210 215 220

Gly Phe Asn Lys Ser Gly Ile Tyr Thr Ile Tyr Phe Asn Asn Met Pro
225 230 235 240

Glu Pro Lys Lys Val Phe Cys Asn Met Asp Val Asn Gly Gly Gly Trp
245 250 255

Thr Val Ile Gln His Arg Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly
260 265 270

Trp Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp
275 280 285

Leu Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met
290 295 300

Leu Arg Ile Glu Leu Met Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln
305 310 315 320

Tyr Asp Arg Phe His Ile Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr
325 330 335

Leu Lys Gly His Thr Gly Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu
340 345 350

His Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn Asn Cys Met
355 360 365

Cys Lys Cys Ala Leu Met Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys
370 375 380

Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln Asn His
385 390 395 400

Gly Lys Leu Asn Gly Ile Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr
405 410 415

Ser Leu Arg Ser Thr Thr Met Met Ile Arg Pro Leu Asp Phe
420 425 430

<210> 11
<211> 235
<212> PRT
<213> Homo sapiens

<400> 11

Met Thr Val Phe Leu Ser Phe Ala Phe Leu Ala Ala Ile Leu Thr His
1 5 10 15

Ile Gly Cys Ser Arg Asp Cys Ala Asp Val Tyr Gln Ala Gly Phe Asn
20 25 30

Lys Ser Gly Ile Tyr Thr Ile Tyr Ile Asn Asn Met Pro Glu Pro Lys
35 40 45

Lys Val Phe Cys Asn Met Asp Val Asn Gly Gly Trp Thr Val Ile
50 55 60

Gln His Arg Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly Trp Lys Glu
65 70 75 80

Tyr Lys Met Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn
85 90 95

Glu Phe Ile Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met Leu Arg Ile
100 105 110

Glu Leu Met Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln Tyr Asp Arg
115 120 125

Phe His Ile Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr Leu Lys Gly
130 135 140

His Thr Gly Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu His Gly Ala
145 150 155 160

Asp Phe Ser Thr Lys Asp Ala Asp Asn Asp Asn Cys Met Cys Lys Cys
165 170 175

Ala Leu Met Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys Gly Pro Ser
180 185 190

Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln Asn His Gly Lys Leu
195 200 205

Asn Gly Ile Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg
210 215 220

Ser Thr Thr Met Met Ile Arg Pro Leu Asp Phe
225 230 235

<210> 12

<211> 235

<212> PRT

<213> mouse

<400> 12

Met Thr Val Phe Leu Ser Phe Ala Phe Phe Ala Ala Ile Leu Thr His
1 5 10 15

Ile Gly Cys Ser Arg Asp Cys Ala Asp Val Tyr Gln Ala Gly Phe Asn
20 25 30

Lys Ser Gly Ile Tyr Thr Ile Tyr Phe Asn Asn Met Pro Glu Pro Lys
35 40 45

Lys Val Phe Cys Asn Met Asp Val Asn Gly Gly Trp Thr Val Ile
50 55 60

Gln His Arg Glu Asp Gly Ser Leu Asp Phe Gln Arg Gly Trp Lys Glu
65 70 75 80

Tyr Lys Met Gly Phe Gly Asn Pro Ser Gly Glu Tyr Trp Leu Gly Asn
85 90 95

Glu Phe Ile Phe Ala Ile Thr Ser Gln Arg Gln Tyr Met Leu Arg Ile
100 105 110

Glu Leu Met Asp Trp Glu Gly Asn Arg Ala Tyr Ser Gln Tyr Asp Arg
115 120 125

Phe His Ile Gly Asn Glu Lys Gln Asn Tyr Arg Leu Tyr Leu Lys Gly
130 135 140

His Thr Gly Thr Ala Gly Lys Gln Ser Ser Leu Ile Leu His Gly Ala
145 150 155 160

Asp Phe Ser Thr Lys Asp Ala Asp Asn Asn Cys Met Cys Lys Cys
165 170 175

Ala Leu Met Leu Thr Gly Gly Trp Trp Phe Asp Ala Cys Gly Pro Ser
180 185 190

Asn Leu Asn Gly Met Phe Tyr Thr Ala Gly Gln Asn His Gly Lys Leu
195 200 205

Asn Gly Ile Lys Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg
210 215 220

Ser Thr Thr Met Met Ile Arg Pro Leu Asp Phe
225 230 235

<210> 13
<211> 498
<212> PRT
<213> Homo sapiens

<400> 13

Met Thr Val Phe Leu Ser Phe Ala Phe Leu Ala Ala Ile Leu Thr His
1 5 10 15

Ile Gly Cys Ser Asn Gln Arg Arg Ser Pro Glu Asn Ser Gly Arg Arg
20 25 30

Tyr Asn Arg Ile Gln His Gly Gln Cys Ala Tyr Thr Phe Ile Leu Pro
35 40 45

Glu His Asp Gly Asn Cys Arg Glu Ser Thr Thr Asp Gln Tyr Asn Thr
50 55 60

Asn Ala Leu Gln Arg Asp Ala Pro His Val Glu Pro Asp Phe Ser Ser
65 70 75 80

Gln Lys Leu Gln His Leu Glu His Val Met Glu Asn Tyr Thr Gln Trp
85 90 95

Leu Gln Lys Leu Glu Asn Tyr Ile Val Glu Asn Met Lys Ser Glu Met
100 105 110

Ala Gln Ile Gln Gln Asn Ala Val Gln Asn His Thr Ala Thr Met Leu
115 120 125

Glu Ile Gly Thr Ser Leu Leu Ser Gln Thr Ala Glu Gln Thr Arg Lys
130 135 140

Leu Thr Asp Val Glu Thr Gln Val Leu Asn Gln Thr Ser Arg Leu Glu
145 150 155 160

Ile Gln Leu Leu Glu Asn Ser Leu Ser Thr Tyr Lys Leu Glu Lys Gln
165 170 175

Leu Leu Gln Gln Thr Asn Glu Ile Leu Lys Ile His Glu Lys Asn Ser
180 185 190

Leu Leu Glu His Lys Ile Leu Glu Met Glu Gly Lys His Lys Glu Glu
195 200 205

Leu Asp Thr Leu Lys Glu Glu Lys Glu Asn Leu Gln Gly Leu Val Thr
210 215 220

Arg Gln Thr Tyr Ile Ile Gln Glu Leu Glu Lys Gln Leu Asn Arg Ala
225 230 235 240

Thr Thr Asn Asn Ser Val Leu Gln Lys Gln Gln Leu Glu Leu Met Asp
245 250 255

Thr Val His Asn Leu Val Asn Leu Cys Thr Lys Glu Gly Val Leu Leu
260 265 270

Lys Gly Gly Lys Arg Glu Glu Lys Pro Phe Arg Asp Cys Ala Asp
275 280 285

Val Tyr Gln Ala Gly Phe Asn Lys Ser Gly Ile Tyr Thr Ile Tyr Ile
290 295 300

Asn Asn Met Pro Glu Pro Lys Lys Val Phe Cys Asn Met Asp Val Asn
305 310 315 320

Gly Gly Gly Trp Thr Val Ile Gln His Arg Glu Asp Gly Ser Leu Asp
325 330 335

Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro Ser
16

340

345

350

Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser Gln
355 360 365

Arg Gln Tyr Met Leu Arg Ile Glu Leu Met Asp Trp Glu Gly Asn Arg
370 375 380

Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile Gly Asn Glu Lys Gln Asn
385 390 395 400

Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly Thr Ala Gly Lys Gln Ser
405 410 415

Ser Leu Ile Leu His Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn
420 425 430

Asp Asn Cys Met Cys Lys Cys Ala Leu Met Leu Thr Gly Gly Trp Trp
435 440 445

Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala
450 455 460

Gly Gln Asn His Gly Lys Leu Asn Gly Ile Lys Trp His Tyr Phe Lys
465 470 475 480

Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr Met Met Ile Arg Pro Leu
485 490 495

Asp Phe

<210> 14
<211> 498
<212> PRT
<213> mouse

<400> 14

Met Thr Val Phe Leu Ser Phe Ala Phe Phe Ala Ala Ile Leu Thr His
1 5 10 15

Ile Gly Cys Ser Asn Gln Arg Arg Asn Pro Glu Asn Gly Gly Arg Arg
20 25 30

Tyr Asn Arg Ile Gln His Gly Gln Cys Ala Tyr Thr Phe Ile Leu Pro
35 40 45

Glu His Asp Gly Asn Cys Arg Glu Ser Ala Thr Glu Gln Tyr Asn Thr
50 55 60

Asn Ala Leu Gln Arg Asp Ala Pro His Val Glu Pro Asp Phe Ser Ser
65 70 75 80

Gln Lys Leu Gln His Leu Glu His Val Met Glu Asn Tyr Thr Gln Trp
85 90 95

Leu Gln Lys Leu Glu Asn Tyr Ile Val Glu Asn Met Lys Ser Glu Met
100 105 110

Ala Gln Ile Gln Gln Asn Ala Val Gln Asn His Thr Ala Thr Met Leu
115 120 125

Glu Ile Gly Thr Ser Leu Leu Ser Gln Thr Ala Glu Gln Thr Arg Lys
130 135 140

Leu Thr Asp Val Glu Thr Gln Val Leu Asn Gln Thr Ser Arg Leu Glu
145 150 155 160

Ile Gln Leu Leu Glu Asn Ser Leu Ser Thr Tyr Lys Leu Glu Lys Gln
165 170 175

Leu Leu Gln Gln Thr Asn Glu Ile Leu Lys Ile His Glu Lys Asn Ser
180 185 190

Leu Leu Glu His Lys Ile Leu Glu Met Glu Gly Lys His Lys Glu Glu
195 200 205

Leu Asp Thr Leu Lys Glu Glu Lys Glu Asn Leu Gln Gly Leu Val Ser
210 215 220

Arg Gln Thr Phe Ile Ile Gln Glu Leu Glu Lys Gln Leu Ser Arg Ala
225 230 235 240

Thr Asn Asn Asn Ser Ile Leu Gln Lys Gln Gln Leu Glu Leu Met Asp
245 250 255

Thr Val His Asn Leu Val Ser Leu Cys Thr Lys Glu Gly Val Leu Leu
260 265 270

Lys Gly Gly Lys Arg Glu Glu Lys Pro Phe Arg Asp Cys Ala Asp
275 280 285

Val Tyr Gln Ala Gly Phe Asn Lys Ser Gly Ile Tyr Thr Ile Tyr Phe
290 295 300

Asn Asn Met Pro Glu Pro Lys Lys Val Phe Cys Asn Met Asp Val Asn
305 310 315 320

Gly Gly Gly Trp Thr Val Ile Gln His Arg Glu Asp Gly Ser Leu Asp
325 330 335

Phe Gln Arg Gly Trp Lys Glu Tyr Lys Met Gly Phe Gly Asn Pro Ser
340 345 350

Gly Glu Tyr Trp Leu Gly Asn Glu Phe Ile Phe Ala Ile Thr Ser Gln
355 360 365

Arg Gln Tyr Met Leu Arg Ile Glu Leu Met Asp Trp Glu Gly Asn Arg
370 375 380

Ala Tyr Ser Gln Tyr Asp Arg Phe His Ile Gly Asn Glu Lys Gln Asn
385 390 395 400

Tyr Arg Leu Tyr Leu Lys Gly His Thr Gly Thr Ala Gly Lys Gln Ser
405 410 415

Ser Leu Ile Leu His Gly Ala Asp Phe Ser Thr Lys Asp Ala Asp Asn
420 425 430

Asp Asn Cys Met Cys Lys Cys Ala Leu Met Leu Thr Gly Gly Trp Trp
435 440 445

Phe Asp Ala Cys Gly Pro Ser Asn Leu Asn Gly Met Phe Tyr Thr Ala
450 455 460

Gly Gln Asn His Gly Lys Leu Asn Gly Ile Lys Trp His Tyr Phe Lys
465 470 475 480

Gly Pro Ser Tyr Ser Leu Arg Ser Thr Thr Met Met Ile Arg Pro Leu
485 490 495

Asp Phe

<210> 15
<211> 496
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<213> Homo sapiens

<400> 15

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35 40 45

Glu Met Asp Asn Cys Arg Ser Ser Ser Ser Pro Tyr Val Ser Asn Ala
50 55 60

Val Gln Arg Asp Ala Pro Leu Glu Tyr Asp Asp Ser Val Gln Arg Leu
65 70 75 80

Gln Val Leu Glu Asn Ile Met Glu Asn Asn Thr Gln Trp Leu Met Lys
85 90 95

Leu Glu Asn Tyr Ile Gln Asp Asn Met Lys Lys Glu Met Val Glu Ile
100 105 110

Gln Gln Asn Ala Val Gln Asn Gln Thr Ala Val Met Ile Glu Ile Gly
115 120 125

Thr Asn Leu Leu Asn Gln Thr Ala Glu Gln Thr Arg Lys Leu Thr Asp
130 135 140

Val Glu Ala Gln Val Leu Asn Gln Thr Thr Arg Leu Glu Leu Gln Leu
145 150 155 160

Leu Glu His Ser Leu Ser Thr Asn Lys Leu Glu Lys Gln Ile Leu Asp
165 170 175

Gln Thr Ser Glu Ile Asn Lys Leu Gln Asp Lys Asn Ser Phe Leu Glu
180 185 190

Lys Lys Val Leu Ala Met Glu Asp Lys His Ile Ile Gln Leu Gln Ser
195 200 205

Ile Lys Glu Glu Lys Asp Gln Leu Gln Val Leu Val Ser Lys Gln Asn
210 215 220

Ser Ile Ile Glu Glu Leu Glu Lys Lys Ile Val Thr Ala Thr Val Asn
225 230 235 240

Asn Ser Val Leu Gln Lys Gln His Asp Leu Met Glu Thr Val Asn
245 250 255

Asn Leu Leu Thr Met Met Ser Thr Ser Asn Ser Ala Lys Asp Pro Thr
260 265 270

Val Ala Lys Glu Glu Gln Ile Ser Phe Arg Asp Cys Ala Glu Val Phe
275 280 285

Lys Ser Gly His Thr Thr Asn Gly Ile Tyr Thr Leu Thr Phe Pro Asn
290 295 300

Ser Thr Glu Glu Ile Lys Ala Tyr Cys Asp Met Glu Ala Gly Gly Gly
305 310 315 320

Gly Trp Thr Ile Ile Gln Arg Arg Glu Asp Gly Ser Val Asp Phe Gln
325 330 335

Arg Thr Trp Lys Glu Tyr Lys Val Gly Phe Gly Asn Pro Ser Gly Glu
340 345 350

Tyr Trp Leu Gly Asn Glu Phe Val Ser Gln Leu Thr Asn Gln Gln Arg
355 360 365

Tyr Val Leu Lys Ile His Leu Lys Asp Trp Glu Gly Asn Glu Ala Tyr
370 375 380

Ser Leu Tyr Glu His Phe Tyr Leu Ser Ser Glu Glu Leu Asn Tyr Arg
385 390 395 400

Ile His Leu Lys Gly Leu Thr Gly Thr Ala Gly Lys Ile Ser Ser Ile
405 410 415

Ser Gln Pro Gly Asn Asp Phe Ser Thr Lys Asp Gly Asp Asn Asp Lys
420 425 430

Cys Ile Cys Lys Cys Ser Gln Met Leu Thr Gly Gly Trp Trp Phe Asp
435 440 445

Ala Cys Gly Pro Ser Asn Leu Asn Gly Met Tyr Tyr Pro Gln Arg Gln
450 455 460

Asn Thr Asn Lys Phe Asn Gly Ile Lys Trp Tyr Tyr Trp Lys Gly Ser
465 470 475 480

Gly Tyr Ser Leu Lys Ala Thr Thr Met Met Ile Arg Pro Ala Asp Phe
485 490 495

<210> 16
<211> 496
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<213> mouse

<400> 16

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Gln Tyr Gln Val Gln Asn Gly Pro Cys Ser Tyr Thr Phe Leu Leu Pro
21

35

40

45

Glu Thr Asp Ser Cys Arg Ser Ser Ser Ser Pro Tyr Met Ser Asn Ala
50 55 60

Val Gln Arg Asp Ala Pro Leu Asp Tyr Asp Asp Ser Val Gln Arg Leu
65 70 75 80

Gln Val Leu Glu Asn Ile Leu Glu Asn Asn Thr Gln Trp Leu Met Lys
85 90 95

Leu Glu Asn Tyr Ile Gln Asp Asn Met Lys Lys Glu Met Val Glu Ile
100 105 110

Gln Gln Asn Val Val Gln Asn Gln Thr Ala Val Met Ile Glu Ile Gly
115 120 125

Thr Ser Leu Leu Asn Gln Thr Ala Ala Gln Thr Arg Lys Leu Thr Asp
130 135 140

Val Glu Ala Gln Val Leu Asn Gln Thr Thr Arg Leu Glu Leu Gln Leu
145 150 155 160

Leu Gln His Ser Ile Ser Thr Asn Lys Leu Glu Lys Gln Ile Leu Asp
165 170 175

Gln Thr Ser Glu Ile Asn Lys Leu Gln Asn Lys Asn Ser Phe Leu Glu
180 185 190

Gln Lys Val Leu Asp Met Glu Gly Lys His Ser Glu Gln Leu Gln Ser
195 200 205

Met Lys Glu Gln Lys Asp Glu Leu Gln Val Leu Val Ser Lys Gln Ser
210 215 220

Ser Val Ile Asp Glu Leu Glu Lys Lys Leu Val Thr Ala Thr Val Asn
225 230 235 240

Asn Ser Leu Leu Gln Lys Gln Gln His Asp Leu Met Glu Thr Val Asn
245 250 255

Ser Leu Leu Thr Met Met Ser Ser Pro Asn Ser Lys Ser Ser Val Ala
260 265 270

Ile Arg Lys Glu Glu Gln Thr Thr Phe Arg Asp Cys Ala Glu Ile Phe
275 280 285

Lys Ser Gly Leu Thr Thr Ser Gly Ile Tyr Thr Leu Thr Phe Pro Asn
290 295 300

Ser Thr Glu Glu Ile Lys Ala Tyr Cys Asp Met Asp Val Gly Gly Gly
305 310 315 320

Gly Trp Thr Val Ile Gln His Arg Glu Asp Gly Ser Val Asp Phe Gln
325 330 335

Arg Thr Trp Lys Glu Tyr Lys Glu Gly Phe Gly Asn Pro Leu Gly Glu
340 345 350

Tyr Trp Leu Gly Asn Glu Phe Val Ser Gln Leu Thr Gly Gln His Arg
355 360 365

Tyr Val Leu Lys Ile Gln Leu Lys Asp Trp Glu Gly Asn Glu Ala His
370 375 380

Ser Leu Tyr Asp His Phe Tyr Leu Ala Gly Glu Glu Ser Asn Tyr Arg
385 390 395 400

Ile His Leu Thr Gly Leu Thr Gly Thr Ala Ala Lys Ile Ser Ser Ile
405 410 415

Ser Gln Pro Gly Ser Asp Phe Ser Thr Lys Asp Ser Asp Asn Asp Lys
420 425 430

Cys Ile Cys Lys Cys Ser Gln Met Leu Ser Gly Gly Trp Trp Phe Asp
435 440 445

Ala Cys Gly Pro Ser Asn Leu Asn Gly Gln Tyr Tyr Pro Gln Lys Gln
450 455 460

Asn Thr Asn Lys Phe Asn Gly Ile Lys Trp Tyr Tyr Trp Lys Gly Ser
465 470 475 480

Gly Tyr Ser Leu Lys Ala Thr Thr Met Met Ile Arg Pro Ala Asp Phe
485 490 495

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<400> 17

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Cys Glu Thr Leu Val Val Gln His Gly His Cys Ser Tyr Thr Phe Leu
35 40 45

Leu Pro Lys Ser Glu Pro Cys Pro Pro Gly Pro Glu Val Ser Arg Asp
50 55 60

Ser Asn Thr Leu Gln Arg Glu Ser Leu Ala Asn Pro Leu His Leu Gly
65 70 75 80

Lys Leu Pro Thr Gln Gln Val Lys Gln Leu Glu Gln Ala Leu Gln Asn
85 90 95

Asn Thr Gln Trp Leu Lys Lys Leu Glu Arg Ala Ile Lys Thr Ile Leu
100 105 110

Arg Ser Lys Leu Glu Gln Val Gln Gln Met Ala Gln Asn Gln Thr
115 120 125

Ala Pro Met Leu Glu Leu Gly Thr Ser Leu Leu Asn Gln Thr Thr Ala
130 135 140

Gln Ile Arg Lys Leu Thr Asp Met Glu Ala Gln Leu Leu Asn Gln Thr
145 150 155 160

Ser Arg Met Asp Ala Gln Met Pro Glu Thr Phe Leu Ser Thr Asn Lys
165 170 175

Leu Glu Asn Gln Leu Leu Leu Gln Arg Gln Lys Leu Gln Gln Leu Gln
180 185 190

Gly Gln Asn Ser Ala Leu Glu Lys Arg Leu Gln Ala Leu Glu Thr Lys
195 200 205

Gln Gln Glu Glu Leu Ala Ser Ile Leu Ser Lys Lys Ala Lys Leu Leu
210 215 220

Asn Thr Leu Ser Arg Gln Ser Ala Ala Leu Thr Asn Ile Glu Arg Gly
225 230 235 240

Leu Arg Gly Val Arg His Asn Ser Ser Leu Leu Gln Asp Gln Gln His
245 250 255

Ser Leu Arg Gln Leu Leu Val Leu Leu Arg His Leu Val Gln Glu Arg
260 265 270

Ala Asn Ala Ser Ala Pro Ala Phe Ile Met Ala Gly Glu Gln Val Phe
275 280 285

Gln Asp Cys Ala Glu Ile Gln Arg Ser Gly Ala Ser Ala Ser Gly Val
24

290

295

300

Tyr Thr Ile Gln Val Ser Asn Ala Thr Lys Pro Arg Lys Val Phe Cys
305 310 315 320

Asp Leu Gln Ser Ser Gly Gly Arg Trp Thr Leu Ile Gln Arg Arg Glu
325 330 335

Asn Gly Thr Val Asn Phe Gln Arg Asn Trp Lys Asp Tyr Lys Gln Gly
340 345 350

Phe Gly Asp Pro Ala Gly Glu His Trp Leu Gly Asn Glu Val Val His
355 360 365

Gln Leu Thr Arg Arg Ala Ala Tyr Ser Leu Arg Val Glu Leu Gln Asp
370 375 380

Trp Glu Gly His Glu Ala Tyr Ala Gln Tyr Glu His Phe His Leu Gly
385 390 395 400

Ser Glu Asn Gln Leu Tyr Arg Leu Ser Val Val Gly Tyr Ser Gly Ser
405 410 415

Ala Gly Arg Gln Ser Ser Leu Val Leu Gln Asn Thr Ser Phe Ser Thr
420 425 430

Leu Asp Ser Asp Asn Asp His Cys Leu Cys Lys Cys Ala Gln Val Met
435 440 445

Ser Gly Gly Trp Trp Phe Asp Ala Cys Gly Leu Ser Asn Leu Asn Gly
450 455 460

Val Tyr Tyr His Ala Pro Asp Asn Lys Tyr Lys Met Asp Gly Ile Arg
465 470 475 480

Trp His Tyr Phe Lys Gly Pro Ser Tyr Ser Leu Arg Ala Ser Arg Met
485 490 495

Met Ile Arg Pro Leu Asp Ile
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<210> 18
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<213> mouse

<400> 18

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Thr Met Ala Ala Ala Gln His Arg Gly Pro Glu Ala Gly Gly His Arg
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Gln Ile His Gln Val Arg Arg Gly Gln Cys Ser Tyr Thr Phe Val Val
35 40 45

Pro Glu Pro Asp Ile Cys Gln Leu Ala Pro Thr Ala Ala Pro Glu Ala
50 55 60

Leu Gly Gly Ser Asn Ser Leu Gln Arg Asp Leu Pro Ala Ser Arg Leu
65 70 75 80

His Leu Thr Asp Trp Arg Ala Gln Arg Ala Gln Arg Ala Gln Arg Val
85 90 95

Ser Gln Leu Glu Lys Ile Leu Glu Asn Asn Thr Gln Trp Leu Leu Lys
100 105 110

Leu Glu Gln Ser Ile Lys Val Asn Leu Arg Ser His Leu Val Gln Ala
115 120 125

Gln Gln Asp Thr Ile Gln Asn Gln Thr Thr Thr Met Leu Ala Leu Gly
130 135 140

Ala Asn Leu Met Asn Gln Thr Lys Ala Gln Thr His Lys Leu Thr Ala
145 150 155 160

Val Glu Ala Gln Val Leu Asn Gln Thr Leu His Met Lys Thr Gln Met
165 170 175

Leu Glu Asn Ser Leu Ser Thr Asn Lys Leu Glu Arg Gln Met Leu Met
180 185 190

Gln Ser Arg Glu Leu Gln Arg Leu Gln Gly Arg Asn Arg Ala Leu Glu
195 200 205

Thr Arg Leu Gln Ala Leu Glu Ala Gln His Gln Ala Gln Leu Asn Ser
210 215 220

Leu Gln Glu Lys Arg Glu Gln Leu His Ser Leu Leu Gly His Gln Thr
225 230 235 240

Gly Thr Leu Ala Asn Leu Lys His Asn Leu His Ala Leu Ser Ser Asn
245 250 255

Ser Ser Ser Leu Gln Gln Gln Gln Gln Leu Thr Glu Phe Val Gln
260 265 270

Arg Leu Val Arg Ile Val Ala Gln Asp Gln His Pro Val Ser Leu Lys
275 280 285

Thr Pro Lys Pro Val Phe Gln Asp Cys Ala Glu Ile Lys Arg Ser Gly
290 295 300

Val Asn Thr Ser Gly Val Tyr Thr Ile Tyr Glu Thr Asn Met Thr Lys
305 310 315 320

Pro Leu Lys Val Phe Cys Asp Met Glu Thr Asp Gly Gly Trp Thr
325 330 335

Leu Ile Gln His Arg Glu Asp Gly Ser Val Asn Phe Gln Arg Thr Trp
340 345 350

Glu Glu Tyr Lys Glu Gly Phe Gly Asn Val Ala Arg Glu His Trp Leu
355 360 365

Gly Asn Glu Ala Val His Arg Leu Thr Ser Arg Thr Ala Tyr Leu Leu
370 375 380

Arg Val Glu Leu His Asp Trp Glu Gly Arg Gln Thr Ser Ile Gln Tyr
385 390 395 400

Glu Asn Phe Gln Leu Gly Ser Glu Arg Gln Arg Tyr Ser Leu Ser Val
405 410 415

Asn Asp Ser Ser Ser Ala Gly Arg Lys Asn Ser Leu Ala Pro Gln
420 425 430

Gly Thr Lys Phe Ser Thr Lys Asp Met Asp Asn Asp Asn Cys Met Cys
435 440 445

Lys Cys Ala Gln Met Leu Ser Gly Gly Trp Trp Phe Asp Ala Cys Gly
450 455 460

Leu Ser Asn Leu Asn Gly Ile Tyr Tyr Ser Val His Gln His Leu His
465 470 475 480

Lys Ile Asn Gly Ile Arg Trp His Tyr Phe Arg Gly Pro Ser Tyr Ser
485 490 495

Leu His Gly Thr Arg Met Met Leu Arg Pro Met Gly Ala
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<213> Homo sapiens

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cagtag						126
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gagaattaca	ttgtggaaaa	catgaagtgc	gagatggccc	agatacagca	gaatgcagtt	360
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<213>	Homo sapiens					

<400> 27

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<212> DNA
<213> mouse

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<212> DNA
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<213> *Homo sapiens*

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